03040208-03

(Little River/AIWW/Murrells Inlet)

General Description

The South Carolina portion of 03040208-03 (formerly 03040207-020) is a *coastal frontage basin* located in Horry and Georgetown Counties and consists primarily of the ***Little River*** and the ***Atlantic Intracoastal Waterway (AIWW)*** and their tributaries from Myrtle Beach northward to the North Carolina state line and the Little River Inlet, and streams draining directly into the ***Atlantic Ocean*** from the "Grand Strand" beaches southward to ***Murrells Inlet***. The watershed occupies 175,584 acres of the Coastal Zone region of South Carolina. Land use/land cover in the watershed includes: 57.5% water, 18.0% urban land, 7.6% forested wetland, 6.6% forested land, 4.1% agricultural land, 3.6% scrub/shrub land, 1.4% nonforested wetland, and 1.2% barren land.

The Little River is a tidal river and flows in both directions, from Little River Inlet to the AIWW, according to the tides. The Little River flows across the North Carolina state line and accepts drainage from Mullet Creek, Calabash Creek, Milliken Cove, and Horseford Creek. Dunn Sound Creek connects Little River Inlet to Dunn Sound, as does Sheephead Creek. Eden Saltworks Creek connects Dunn Sound to Hog Inlet, and House Creek connects Hog Inlet to Cherry Grove Inlet. Also draining into Cherry Grove Inlet are Williams Creek, Salt Flat Creek, and Nixon Creek.

The portion of the AIWW in this watershed accepts drainage from Little River Swamp, Prices Swamp, Camp Branch Run, White Point Creek (Long Pond), Long Branch, Canepatch Swamp, and Black Creek before flowing through Little River. Withers Swamp drains off of the AIWW in Myrtle Beach. Singleton Swash, Bear Creek, Canepatch Swash, Withers Swash, and Pebble Beach or Midway Swash drain directly into the Atlantic Ocean. Whale Creek, Main Creek, Woodland Creek, Parsonage Creek, Flagg Creek, Allston Creek, Oaks Creek, and Oyster Cove all drain to the ocean through Murrells Inlet. There are a total of 91.5 stream miles, 148.8 acres of lake waters, and 2,365.7 acres of estuarine areas in this watershed. All streams in the watershed are classified SFH with the exception of the AIWW. The AIWW and its tributaries from the crossing of S.C. Hwy 9 to the North Carolina state line are classified SA, and southward from the S.C. Hwy 9 crossing are classified FW. Huntington Beach State Park is a natural resource in the watershed.

Surface Water Quality

Station #	Type	Class	Description
MD-162	P/W	SA	LITTLE RIVER AT S END OF ISLAND DUE E OF TOWN
MD-125	S/INT	FW/SA	AIWW (LITTLE RIVER) ON SC 9 (US 17)
MD-091	S/W	FW	AIWW 4 MI N OF BRIDGE ON US 501
MD-276	INT	SFH	HOUSE CREEK AT 53RD AVE OUT FROM BOAT LANDING (01-19)
MD-277	INT	SFH	PARSONNAGE CREEK AT INLET PORT BASIN (04-17)
RT-01655	RT01	SFH	ALLSTON CREEK, 10 MI SSE OF SOCASTEE
MD-085	S/INT	FW	AIWW AT POINT 3 MI N OF BRIDGE ON US 501
MD-087	P/W	FW	AIWW JUST N OF BRIDGE ON US 501

Little River (MD-162) – Aquatic life uses are fully supported. Although there were pH excursions, these were typical of values seen in tidally influenced systems with limited flushing and significant marsh drainage. As such they were considered to be natural in origin, and are not considered to be standards violations. There is a significant increasing trend in pH. Recreational uses are fully supported and a significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter.

Atlantic Intracoastal Waterway – There are four SCDHEC monitoring sites along this section of the AIWW. Recreational uses are fully supported at **all sites** and significant decreasing trends in fecal coliform bacteria concentration suggest improving conditions for this parameter at **all sites.** This section of the AIWW is influenced by tidal pressures from both the Little River and the Winyah Bay ends, so flushing and mixing are limited, causing a bathtub effect whereby the water moves back and forth, but takes a long time to actually move out of the waterway. At the furthest upstream site ***(MD-085)***, aquatic life uses are fully supported; however, there is a significant increasing trend in turbidity. There is a significant increasing trend in pH. Although dissolved oxygen excursions occurred, they were typical of values seen in tidally influenced systems with limited flushing and significant marsh drainage and were considered natural, not standards violations. A significant increasing trend in dissolved oxygen suggests improving conditions for this parameter.

At the next downstream site ***(MD-087)***, aquatic life uses are fully supported; however, there is a significant increasing trend in turbidity. Although dissolved oxygen and pH excursions occurred, they were typical of values seen in tidally influenced systems with limited flushing and significant marsh drainage and were considered natural, not standards violations. A significant decreasing trend in total nitrogen concentration suggests improving conditions for this parameter. Further downstream ***(MD-125)***, aquatic life uses are not supported due to occurrences of copper in excess of the aquatic life acute criterion. There is a significant increasing trend in pH. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter. At the furthest downstream site ***(MD-091)***, aquatic life uses are fully supported; however, there is a significant increasing trend in turbidity. Although dissolved oxygen and pH excursions occurred, they were typical of values seen in tidally influenced systems with limited flushing and significant marsh drainage and were considered natural, not standards violations.

House Creek (MD-276) – Aquatic life uses are not supported due to occurrences of copper in excess of the aquatic life acute criterion and dissolved oxygen excursions, which are compounded by a significant decreasing trend in dissolved oxygen concentration. There is a significant decreasing trend in pH. Recreational uses are fully supported.

Parsonnage Creek (MD-277) – Aquatic life uses are partially supported due to dissolved oxygen excursions, which are compounded by a significant decreasing trend in dissolved oxygen concentration. Recreational uses are fully supported.

Allston Creek (RT-01655) – Aquatic life and recreational uses are fully supported.

*A fish consumption advisory has been issued by the Department for mercury and includes the **Atlantic Intracoastal Waterway** and the **Atlantic Ocean** within this watershed (see advisory p.210).*

Shellfish Monitoring Stations

Station #	Description
01-01	Little River Jetty
01-02	Mouth of Dunn Sound Creek
01-03	AIWW - Marker #9 (D3-02)
01-04	Mouth of Calabash Creek at AIWW
01-05	Big bend up Dunn Sound Creek
01-06	Bridge to Waites Island
01-07	Hog Inlet
01-08	AIWW - Marker #116
01-09	AIWW - Marker #6
01-10	AIWW at U. S. Highway 17(D3-02)
01-11	Dock - Bird Island, North Carolina (1966-98)
01-12	Clayton Creek at Little River Inlet (1968-98)
01-13	Boat Landing - Bonaparte, North Carolina (1968-98)
01-14	Palmetto Shores Marina Entrance
01-15	Ocean Drive Outfall at AIWW
01-16	50 Yards North of Ocean Drive Outfall
01-17	42nd Avenue - Cherry Grove
01-17A	53rd Avenue Bridge on Canal
01-18	Dunn Sound at Hog Inlet
01-19	53rd Avenue at Main Creek
02-01	White Point Swash
02-02	Singleton Swash
02-03	Canepatch Swash
03-01	Withers Swash
03-02	Midway Swash - Pebble Beach
04-01	Main Creek at Atlantic Avenue Bridge
04-01A	Main Creek at Stanley Drive
04-02	Main Creek at Mickey Spillane's Home
04-03	Main Creek at Captain Dick's Marina
04-03A	Main Creek Southeast side of Prohibited area near Captain Dick's Marina
04-03B	AIWW - Marker #9 (D3-02)
04-04	Main Creek at Marlin Quay Marina
04-04A	Garden City Canal due E of Entrance to Flagg Creek
04-04B	Northern boundary of Marlin Quay closure zone – Main Creek
04-04C	Western boundary of Marlin Quay closure zone – Main Creek
04-05	Murrells Inlet - Range Marker
04-06	Allston Creek at Weston Flat
04-07	Allston Creek Pog - Hughes Landing
04-08	Parsonage Creek at Nance's Dock
04-08A	Oyster (Carr) Landing at Huntington Beach Station Park
04-16	Parsonage Creek at Chicken Farm Ditch
04-17	Parsonage Creek at Voyager View Basin
04-17A	Southwest Corner of Voyager View Marina Prohibited Zone in Parsonage Creek
04-18	North Boundary of Clambank Flats POG
04-22	Huntington State Park Pond Outfall - 23 Main Creek at Oyster Cove (1986-94)
04-23	Main Creek at Oyster Cover
04-24	Oaks Creek at First Curve
04-25	Main Creek at Flagg Creek
04-26	Garden City Canal at the "Old Boat Wreck"
04-27	Main Creek, Opposite Entrance to Mt. Gilead Canal
04-28	Oaks Creek, Approx. 150 Meters from the Huntington Beach State Park Causeway
04-29	Oyster Cove, South Branch
04-30	Oyster Cove, North Branch

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-015	GB	BLACK CREEK	MYRTLEWOOD
AMB-014	GB	BLACK CREEK	SURFSIDE-POPLAR STREET

NPDES Program

Active NPDES Facilities

RECEIVING STREAM *FACILITY NAME* *PERMITTED FLOW @ PIPE (MGD)*	*NPDES#* *TYPE* *COMMENT*
LITTLE RIVER TRIBUTARY LITTLE RIVER W&S PIPE #: 001 FLOW: M/R	SCG645018 MINOR DOMESTIC
ATLANTIC INTRACOASTAL WATERWAY GSW&SA/VEREEN WWTP PIPES #: 001 FLOW: 7.0	SC0041696 MAJOR DOMESTIC TOTAL FLOW IN 001-005 IS 7.0
CAROLINA BAYS GSW&SA/VEREEN WWTP PIPES #: 002-005 FLOW: 2.5	SC0041696 MAJOR DOMESTIC TOTAL FLOW IN 001-005 IS 7.0
ATLANTIC INTRACOASTAL WATERWAY CITY OF N. MYRTLE BEACH/OCEAN DRIVE PIPE #: 001 FLOW: 4.5	SC0022152 MAJOR DOMESTIC
ATLANTIC INTRACOASTAL WATERWAY CITY OF N. MYRTLE BEACH/CRESCENT BEACH PIPE #: 001 FLOW: 2.9	SC0022161 MAJOR DOMESTIC
ATLANTIC INTRACOASTAL WATERWAY CITY OF MYRTLE BEACH WTP PIPE #: 001 FLOW: M/R	SCG641012 MINOR DOMESTIC
ATLANTIC INTRACOASTAL WATERWAY MYRTLE BEACH FARMS CO., INC./BENTON MINE PIPE #: 001 FLOW: M/R	SCG730075 MINOR INDUSTRIAL
AIWW TRIBUTARY PALMETTO LAND PARTNERS LLC/BAREFOOT PIT PIPE #: 001 FLOW: M/R	SCG730351 MINOR INDUSTRIAL
ATLANTIC INTRACOASTAL WATERWAY P-MINING CO./P-MINING PIT #1 PIPE #: 001 FLOW: M/R	SCG730081 MINOR INDUSTRIAL
ATLANTIC INTRACOASTAL WATERWAY P-MINING CO./P-MINING PIT #2 PIPE #: 001 FLOW: M/R	SCG730272 MINOR INDUSTRIAL
ATLANTIC INTRACOASTAL WATERWAY VEREEN CONCRETE/SAND RIDGE MINE PIPE #: 001 FLOW: M/R	SCG730576 MINOR INDUSTRIAL

ATLANTIC OCEAN USAF/MYRTLE BEACH AFB PIPE #: 005 FLOW: 0.141	SC0002097 MINOR INDUSTRIAL
WITHERS SWASH AUX CORP./MYRTLE BEACH PLANT PIPE #: 001 FLOW: 0.052	SC0047953 MINOR INDUSTRIAL

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME ***FACILITY TYPE***	***PERMIT #*** ***STATUS***
CITY OF MYRTLE BEACH DUMP MUNICIPAL	---------- CLOSED
CITY OF MYRTLE BEACH INDUSTRIAL	---------- CLOSED
CITY OF MYRTLE BEACH TRANSFER STA. MUNICIPAL	261003-6001 ACTIVE
CITY OF N. MYRTLE BEACH TRANSFER STA. MUNICIPAL	261004-6001 ACTIVE
VENTURE MANUFACTURING INDUSTRIAL	342433-5201 ACTIVE
P-MINING COMPOSTING COMPOSTING	262650-3001 ACTIVE
VEREEN COMPOSTING SITE COMPOSTING	262484-3001 INACTIVE
DIRTY WORK INC. COMPOSTING	222671-3001 INACTIVE

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
P MINING CO. P MINING PIT	0776-51 LIMESTONE
P MINING CO. P MINING SITE II	1157-51 LIMESTONE
VEREEN CONCRETE CO., INC. SAND RIDGE	0928-51 SAND
PALMETTO LAND PARTNERS LLC BAREFOOT PIT	1407-51 LIMESTONE/COQUINA SAND
LIVINGSTON & SON SERVICES LIVINGSTON MINE	1178-51 SAND; SAND/CLAY
MYRTLE BEACH FARMS CO., INC. 79TH AVE. NORTH BORROW PIT	0362-51 SAND/CLAY

Water Quantity

Portions of this watershed fall within the Waccamaw Capacity Use Area and large groundwater uses must be reported (see Capacity Use Program p.27).

WATER USER	***REGULATED CAP. (MGD)***
STREAM	***PUMPING CAP.(MGD)***
CITY OF MYRTLE BEACH	40.0
AIWW	50.0

Growth Potential

There is a high potential for residential/resort and commercial growth in this watershed, which contains the Cities of North Myrtle and Myrtle Beach as well as the Towns of Atlantic Beach, and Surfside Beach. This "Grand Strand" area is expected to experience a significant increase in population as the popular tourist destination lures year-round residents. Water infrastructure is located throughout the watershed, and sewerage is available in the northern tip as well as in many of the residential/resort developments on the Waccamaw Neck. All developed areas on the Waccamaw Neck will have sewer services in the near future. The closing of the Myrtle Beach Air Force Base has opened the door for additional growth in industry and commerce in the Myrtle Beach area. The City of North Myrtle Beach has an interconnection with Grand Strand Water and Sewer Authority/Wetlands projects to handle additional wastewater flows in the North Myrtle Beach area, which should encourage additional growth. The proposed Preferred Alternative route of I-73 (Southern Corridor) would cross this watershed and could bring some growth to the area, especially around interchanges.

Watershed Protection and Restoration

Total Maximum Daily Loads (TMDLs)

A total maximum daily load (TMDL) for oxygen demanding substances has been developed for the main stem of the Waccamaw River and the Atlantic Intracoastal Waterway (AIWW) in watersheds 02040206-09, 03040206-10, and 03040208-030. The TMDL addresses 12 separate monitoring stations on the State’s 1998 303(d) list of impaired waters. The TMDL, based on a maximum 0.1 mg/l deficit allowed in waters that do not meet applicable dissolved oxygen standards due to natural conditions, will result in a decrease of approximately 63% in the permitted oxygen demanding load discharged to the system. The decreased loadings are being implemented through the NPDES permitting system with new, more restrictive limits becoming final at the conclusion of appropriate compliance schedules.

Special Projects

Beach Monitoring Workgroup Results

The Department ceased collection of water samples in the surf zone in 1980 due to resource limitations. There were no ocean discharges of treated wastewater and other sources of ocean pollution were limited. Prior to 1980, data did not show violations of the water quality standards in the surf zone related to stormwater discharge. A Beach Monitoring workgroup, consisting of Department personnel and coastal municipal and county leaders, was initiated in response to concerns of stormwater inputs in South Carolina's surf zone. The consensus of the

workgroup was that a voluntary baseline surf water quality project should be conducted to evaluate whether South Carolina needs to implement an ocean beach bacteria sampling program. The results of the study indicated that stormwater inflows via swashes and drain pipes are responsible for the observed high levels of bacteria in surf during wet weather. Recommendations from the workgroup include: ***Do not swim or allow children to play in swashes or stormwater***; ***in areas with swashes or stormwater outfalls, do not swim in the ocean during rainfall; educate and advise the public about the health risks of swimming; maintain a State/local partnership to regularly monitor surf in areas with beach stormwater discharges during swimming season***; ***reduce bacteria inputs to surface waters from residences and parks***; ***and prevent and control sources of pathogens to beaches from stormwater discharges and nonpoint sources***.

The findings of the workgroup support the posting of permanent signs at specific beach swashes and storm drain outfalls. A voluntary surf water quality monitoring program, with SCDHEC oversight, supported by local coastal municipalities and counties continues.

Development Implementation of a S.C. Coast-A-Syst

The S.C. Coast-A-Syst project targets homeowners living along the Atlantic Intracoastal Waterway (AIWW) and Socastee Creek (watershed 03040206-09) and the AIWW and Little River (watershed 03040208-03). Like much of the coast, these areas are experiencing rapid development and increased populations, while also harboring fragile water resources for recreation and marine ecology. High fecal coliform bacteria counts, water quality non-supportive of aquatic life because of low dissolved oxygen, and pH excursions exist in local waterbodies.

S.C. Sea Grant Consortium and Clemson University developed a program called South Carolina Coast-A-Syst. This product, modeled after the Home*A*Syst and Farm-A-Syst programs, is used to teach watershed residents and waterbody users responsible practices for protecting water quality, with the ultimate goal to reduce bacteria and nutrient input into nearby waterbodies from urban/suburban activities and land development. Research was conducted through surveys to determine what BMPs were appropriate for coastal South Carolina, where education about nonpoint source was lacking, and how best to reach homeowners in providing continued education. Education of coastal residents included identification of practices, which detrimentally affect water quality, reasons why those practices do so, and instructions in better water quality management practices.

Sea Grant Extension and Clemson Extension published a S.C. Coast-A-Syst packet, which includes self-assessments and fact sheets on homeowner practices. Sea Grant Extension trained Extension agents, Master Gardeners, and homeowner associations to administer this homestead self-assessment program, distribute the program and materials through homeowner associations and other public groups, provide support for the program through the Horry County Extension Service, and provide electronic distribution of the program via the world wide web.